

## CLAIMS

What is claimed is:

1. An arrangement for controlling a component in a vehicle in combination with the vehicle, comprising

5 measurement means for measuring at least one morphological characteristic of an occupant;  
determination means for obtaining a current position of at least a part of a seat on which the occupant is situated; and

control means coupled to said measurement means and said determination means for controlling the component based on the at least one measured morphological characteristic of the occupant and the current  
10 position of the seat.

2. The arrangement of claim 1, wherein the component is an occupant restraint device.

3. The arrangement of claim 1, wherein the component is an airbag, said control means being structured and arranged to control inflation of said airbag.

4. The arrangement of claim 1, wherein the component is selected from a group consisting of a brake pedal, an acceleration pedal, a rear-view mirror, a side mirror and a steering wheel.

5. The arrangement of claim 1, wherein said measurement means are structured and arranged to measure a plurality of morphological characteristics of the occupant.

6. The arrangement of claim 1, wherein said measurement means are structured and arranged to measure a height of the occupant.

7. The arrangement of claim 6, wherein said measurement means comprise at least one height sensor arranged in the seat.

8. The arrangement of claim 1, wherein said measurement means are structured and arranged to  
30 measure weight of the occupant.

9. The arrangement of claim 1, wherein the component is an airbag, said control means being structured and arranged to control flow of gas from said airbag.

35 10. The arrangement of claim 1, further comprising:  
adjustment means for moving the seat; and

memory means coupled to said determination means for storing the current position of the seat,  
said adjustment means being coupled to said memory means such that an adjusted position of the seat is  
stored in said memory means.

5           11.     The arrangement of claim 10, further comprising a processor coupled to said measurement  
means for determining an adjusted position of the seat for the occupant based on the at least one measured  
morphological characteristic; said adjustment means being coupled to said processor such that said processor  
directs said adjustment means to move the seat to the determined adjusted position of the seat.

10           12.     The arrangement of claim 1, wherein said determination means comprise a system for  
determining a current position of a bottom portion of the seat.

13.     The arrangement of claim 1, wherein said determination means comprise a system for  
determining a current position of a back portion of the seat.

14.     The arrangement of claim 1, wherein the component is an airbag, said control means being  
arranged to control a direction of deployment of said airbag.

15.     A method for controlling a component in a vehicle, comprising the steps of:  
measuring at least one morphological characteristic of an occupant;  
obtaining a current position of at least a part of a seat on which the occupant is situated; and  
controlling the component based on the at least one measured morphological characteristic of the  
occupant and the current position of the seat.

25           16.     The method of claim 15, wherein the step of obtaining a current position of at least a part of the  
seat comprises the step of obtaining the current position of a bottom portion of the seat.

17.     The method of claim 15, wherein the step of obtaining a current position of at least a part of the  
seat comprises the step of obtaining the current position of a back portion of the seat.

30           18.     The method of claim 15, wherein the at least one morphological characteristic is height of the  
occupant.

35           19.     The method of claim 15, wherein the step of measuring the at least one morphological  
characteristic comprises the step of arranging a weight sensor in connection with the seat such that the at least one  
morphological characteristic is the weight of the occupant.

20. The method of claim 15, wherein the component is an airbag, the step of controlling the component comprising the step of controlling inflation of the airbag.

21. The method of claim 15, wherein the component is an airbag, the step of controlling the component comprising the step of controlling flow of gas from the airbag.

22. The method of claim 15, wherein the component is an airbag, the step of controlling the component comprising the step of adjusting a direction of deployment of the airbag.

23. The method of claim 15, further comprising the step of enabling manual or automatic adjustment of the seat, the step of obtaining a current position of at least a part of the seat comprising the step of storing the current position of the seat if the seat is adjusted.

24. The method of claim 15, further comprising the steps of:  
determining an adjusted position of the seat for the occupant based on the at least one measured morphological characteristic, and  
moving the seat to the determined adjusted position.

25. The method of claim 15, wherein the component is selected from a group consisting of a brake pedal, an acceleration pedal, a rear-view mirror, a side mirror and a steering wheel.

26. An arrangement for controlling deployment of a component in a vehicle in combination with the vehicle, comprising  
measurement means for measuring at least one morphological characteristic of an occupant;  
a processor coupled to said measurement means for determining a new seat position based on the at least one morphological characteristic of the occupant;  
adjustment means for adjusting the seat to the new seat position; and  
control means coupled to said measurement means and said processor for controlling the component based on the at least one measured morphological characteristic of the occupant and the new seat position.

27. The arrangement of claim 26, wherein the component is a deployable occupant restraint device whereby the deployment of said occupant restraint device is controlled by said control means.

28. The arrangement of claim 26, wherein said processor comprises a control circuit or module.





measurement means for measuring at least one morphological characteristic of the occupant, said measurement means generating a first signal representative of said at least one measured morphological characteristic; and

a processor connected to said power means and said measurement means for controlling said power means, said processor comprising computational means for determining an optimum adjusted seat position based on said at least one morphological characteristic, said processor generating a second signal corresponding to said optimum adjusted seat position which is based on said first signal from said measurement means;

said first signal being input from said measurement means into said processor;

said second signal being input into said processor such that said processor affects said power means to move said seat to the optimum adjusted seat position.

45. The system of claim 44, wherein said at least one morphological characteristic is the height of the occupant from an upper surface of a bottom portion of said seat.

46. The system of claim 44, wherein said at least one morphological characteristic is the weight of the occupant on said seat.

47. The system of claim 44, wherein said measurement means is attached to said seat.

48. The system of claim 44, wherein said seat further comprises a headrest, said measurement means being attached to or incorporated within said headrest.

49. The system of claim 44, wherein said vehicle has a headliner and said measurement means is attached to said headliner.

50. The system of claim 44, wherein said vehicle has a roof including support pillars and said measurement means is attached to at least one of said support pillars.

51. The system of claim 44, wherein said power means is arranged to return said seat to the initial position when said seat is unoccupied.

52. The system of claim 44, wherein said seat has a seat back and said power means move said seat to the adjusted position via angular movement of said seat back relative to the passenger compartment.

53. The system of claim 44, wherein said seat comprises means for changing the stiffness of said seat in response to said at least one measured morphological characteristic.

54. The system of claim 44, wherein said seat comprises means for changing the damping of said seat in response to said at least one measured morphological characteristic.